

In the Claims:

Claims 1 to 20 (canceled).

1 21. (currently amended) Deployable structure with a modular
2 configuration consisting of at least one collapsible module
3 (91), which is bounded by joints (114, 115, 126, 121) of a
4 first joint set, which are corner joints of the module (91)
5 and lie in a first surface, and by joints (101, 102, 113,
6 108) of a second joint set, which are corner joints of the
7 module (91) and lie in a second surface, and with at least
8 ~~[[one]]~~ a first joint (109, 122) of a third joint set,
9 which first joint lies outside of the first surface and is
10 not located at a corner of the module, whereby at least
11 some of the joints of the first and second joint sets
12 respectively have a constrained and fixable position
13 relative to one another by being connected with one another
14 by a guide mechanism comprising scissors arrangements,
15 characterized in ~~that, one of the joints that:~~

16 the first joint (109) of the third joint set is
17 connected respectively with at least two of the joints
18 (114, 115, 113, 121) selected from at least one of the
19 first and second joint sets by a respective tension-only
20 connecting element (39, 41, 43, 45) that is adapted and
21 able to transmit only tension forces, ~~[[and]]~~

22 ~~said one of the joints~~ first joint (109) of the third
23 joint set is arranged below a lowermost joint (114, 115,
24 121) among the joints of the first joint set with which

25 said ~~one of the joints~~ first joint (109) of the third joint
26 set is connected, ~~and characterized in that~~

27 forces arising upon loading of the structure by at
28 least one of a useful working load and a self-weight load
29 are transmittable as tension forces away from said ~~one of~~
30 ~~the joints~~ first joint (109) of the third joint set to the
31 joints (114, 115, 113, 121) of at least one of the first
32 and second joint sets via the tension-only connecting
33 element (39, 41, 43, 45) that is adapted and able to
34 transmit only tension forces. forces.

35 a second joint (122) of the third joint set is
36 connected with at least one joint (101, 102, 113, 108) of
37 the second joint set by a connecting element (40, 42,
38 44, 46) that transmits tension and compression forces, and

39 the first joint (109) of the third joint set is
40 connected with the second joint (122) of the third joint
41 set by a connecting element (11) that transmits compression
42 and tension forces.

Claims 22 to 24 (canceled).

1 25. (previously presented) Structure according to claim 21,
2 characterized in that at least one of the first surface and
3 the second surface is a respective plane.

1 26. (previously presented) Deployable structure with a modular
2 configuration consisting of at least one collapsible module
3 (91), which is bounded by joints (114, 115, 126, 121) of a

4 first joint set, which are corner joints of the module (91)
5 and lie in a first surface, and by joints (101, 102, 113,
6 108) of a second joint set, which are corner joints of the
7 module (91) and lie in a second surface, and with at least
8 one joint (109, 122) of a third joint set, which lies
9 outside of the first surface, whereby at least some of the
10 joints of the first and second joint sets respectively have
11 a fixable position relative to one another by being
12 connectable with one another by a guide mechanism,
13 characterized in that, one of the joints (109) of the third
14 joint set is connected respectively with at least two of
15 the joints (114, 115, 113, 121) selected from at least one
16 of the first and second joint sets by a respective
17 tension-only connecting element (39, 41, 43, 45) that is
18 adapted and able to transmit only tension forces, and said
19 one of the joints of the third joint set is arranged below
20 a lowermost joint (114, 115, 121) among the joints of the
21 first joint set with which said one of the joints of the
22 third joint set is connected, and characterized in that
23 forces arising upon loading of the structure by at least
24 one of a useful working load and a self-weight load are
25 transmittable as tension forces away from said one of the
26 joints (109) of the third joint set to the joints (114,
27 115, 113, 121) of at least one of the first and second
28 joint sets via the tension-only connecting element (39, 41,
29 43, 45) that is adapted and able to transmit only tension
30 forces, and further characterized in that all of the joints
31 (101, 102, 113, 108) of the second joint set, and said one

32 of the joints (109) of the third joint set, which is
33 connected with said at least two joints (114, 115, 113,
34 121) selected from at least one of the first and second
35 joint sets by the tension-only connecting element (39, 41,
36 43, 45), lie in one plane.

Claim 27 (canceled).

1 28. (previously presented) Structure according to claim 21,
2 characterized in that the scissors arrangements of the
3 guide mechanism comprise guide means, and in that at least
4 one joint (114) of the first joint set of a first corner of
5 the module (91) arranged on an outer perimeter of the
6 structure is connected by the guide means with a joint
7 (102) of the second joint set of a first neighboring corner
8 of the module (91) opposite the first corner and arranged
9 on the outer perimeter of the structure, and a joint (101)
10 of the second joint set of a second corner is connected by
11 the guide means with a joint (115) of the first joint set
12 of a second neighboring corner opposite the second corner.

1 29. (previously presented) Structure according to claim 28,
2 characterized in that the guide means comprise connecting
3 elements (15, 16) that transmit tension and compression
4 forces and that are crossed-over and pivotally connected
5 with one another.

1 30. (previously presented) Structure according to claim 29,
2 characterized in that the connecting elements (16, 32, 17,
3 20, 34, 21, 24, 36, 25, 28, 38, 29) that transmit tension
4 and compression forces and that lead to supports of the
5 structure have a greater load capacity and a larger
6 diameter, than remaining ones of the connecting elements
7 (15, 31, 18, 19, 33, 22, 23, 35, 26, 27, 37, 30) of the
8 guide means.

1 31. (previously presented) Structure according to claim 29,
2 characterized in that at least a portion of the connecting
3 elements (15, 16; 17, 18; up to 37, 38), which are
4 pair-wise crossed-over and pivotally connected with one
5 another and which transmit tension and compression forces,
6 are connected with one another offset from their center in
7 the longitudinal direction.

1 32. (previously presented) Structure according to claim 21,
2 characterized in that multiple modules (91, 92, 93, 94) are
3 arranged next to one another, and in that neighboring
4 modules comprise common joints.

1 33. (currently amended) ~~Structure according to claim 21,~~
2 Deployable structure with a modular configuration
3 consisting of at least one collapsible module (91), which
4 is bounded by joints (114, 115, 126, 121) of a first joint

5 set, which are corner joints of the module (91) and lie in
6 a first surface, and by joints (101, 102, 113, 108) of a
7 second joint set, which are corner joints of the module
8 (91) and lie in a second surface, and with at least one
9 joint (109, 122) of a third joint set, which joint lies
10 outside of the first surface and is not located at a corner
11 of the module, whereby at least some of the joints of the
12 first and second joint sets respectively have a constrained
13 and fixable position relative to one another by being
14 connected with one another by a guide mechanism comprising
15 scissors arrangements, characterized in that, one of the
16 joints (109) of the third joint set is connected
17 respectively with at least two of the joints (114, 115,
18 113, 121) selected from at least one of the first and
19 second joint sets by a respective tension-only connecting
20 element (39, 41, 43, 45) that is adapted and able to
21 transmit only tension forces, and said one of the joints of
22 the third joint set is arranged below a lowermost joint
23 (114, 115, 121) among the joints of the first joint set
24 with which said one of the joints of the third joint set is
25 connected, and characterized in that forces arising upon
26 loading of the structure by at least one of a useful
27 working load and a self-weight load are transmittable as
28 tension forces away from said one of the joints (109) of
29 the third joint set to the joints (114, 115, 113, 121) of
30 at least one of the first and second joint sets via the
31 tension-only connecting element (39, 41, 43, 45) that is
32 adapted and able to transmit only tension forces, and

33 characterized in that the expansion of the module (91) or
34 the structure (90) is adjustable by an operating
35 arrangement.

1 34. (previously presented) Structure according to claim 33,
2 characterized in that the operating arrangement comprises
3 expansion and retraction mechanisms including an expansion
4 cable and a retraction cable, which are guided in the
5 respective joints over deflection mechanisms and are
6 fixably operable on a common joint (101).

1 35. (previously presented) Structure according to claim 34,
2 characterized in that the expansion cable (1) is guided in
3 the respective joints over deflection mechanisms including
4 deflection rollers or deflection saddles, with at least two
5 different deflection radii.

1 36. (previously presented) Structure according to claim 34,
2 characterized in that the structure (90) can have a
3 pre-stress applied thereto by means of the operating
4 arrangement, and thereby the structure (90) takes on a
5 prescribable form in a loaded condition.

1 37. (previously presented) Structure according to claim 21,
2 characterized in that at least some of the joints selected
3 from at least one of the first joint set (114 to 121, 126),
4 the second joint set (101 to 108, 113), and the third joint
5 set (109 to 112, 122 to 125) are connectable by a membrane

in such a manner so that thereby an at least partially closed outer surface of the first or second surface is formed.

38. (previously presented) Structure according to claim 21, characterized in that at least a portion of the joints (114 to 121, 126) of the first joint set and at least a portion of the joints (122 to 125) of the third joint set are connectable with at least one triangular panel element (201 to 216) in such a manner so that thereby an at least partially closed outer surface of the first surface is formed.

39. (currently amended) Structure according to claim ~~[[22,]]~~ 21, characterized in that the connecting elements that transmit tension and compression forces are articulately joined on the respective joints and are formed by rods of aluminum.

40. (previously presented) Deployable structure with a modular configuration consisting of at least one collapsible module (91), which is bounded by joints (114, 115, 126, 121) of a first joint set, which are corner joints of the module (91) and lie in a first surface, and by joints (101, 102, 113, 108) of a second joint set, which are corner joints of the module (91) and lie in a second surface, and with at least one joint (109, 122) of a third joint set, which lies outside of the first surface, whereby at least some of the

10 joints of the first and second joint sets respectively have
11 a fixable position relative to one another by being
12 connectable with one another by a guide mechanism,
13 characterized in that, one of the joints (109) of the third
14 joint set is connected respectively with at least two of
15 the joints (114, 115, 113, 121) selected from at least one
16 of the first and second joint sets by a respective
17 tension-only connecting element (39, 41, 43, 45) that is
18 adapted and able to transmit only tension forces, and said
19 one of the joints of the third joint set is arranged below
20 a lowermost joint (114, 115, 121) among the joints of the
21 first joint set with which said one of the joints of the
22 third joint set is connected, and characterized in that
23 forces arising upon loading of the structure by at least
24 one of a useful working load and a self-weight load are
25 transmittable as tension forces away from said one of the
26 joints (109) of the third joint set to the joints (114,
27 115, 113, 121) of at least one of the first and second
28 joint sets via the tension-only connecting element (39, 41,
29 43, 45) that is adapted and able to transmit only tension
30 forces, and further characterized in that the tension-only
31 connecting elements that are adapted and able to transmit
32 only tension forces are attached by being articulately
33 joined on the respective joints, and at least partially are
34 formed by respectively two parallel extending wires or
35 cables of steel.

1 41. (currently amended) ~~Structure according to claim 21,~~
2 Deployable structure with a modular configuration
3 consisting of at least one collapsible module (91), which
4 is bounded by joints (114, 115, 126, 121) of a first joint
5 set, which are corner joints of the module (91) and lie in
6 a first surface, and by joints (101, 102, 113, 108) of a
7 second joint set, which are corner joints of the module
8 (91) and lie in a second surface, and with at least one
9 joint (109, 122) of a third joint set, which joint lies
10 outside of the first surface and is not located at a corner
11 of the module, whereby at least some of the joints of the
12 first and second joint sets respectively have a constrained
13 and fixable position relative to one another by being
14 connected with one another by a guide mechanism comprising
15 scissors arrangements, characterized in that, one of the
16 joints (109) of the third joint set is connected
17 respectively with at least two of the joints (114, 115,
18 113, 121) selected from at least one of the first and
19 second joint sets by a respective tension-only connecting
20 element (39, 41, 43, 45) that is adapted and able to
21 transmit only tension forces, and said one of the joints of
22 the third joint set is arranged below a lowermost joint
23 (114, 115, 121) among the joints of the first joint set
24 with which said one of the joints of the third joint set is
25 connected, and characterized in that forces arising upon
26 loading of the structure by at least one of a useful
27 working load and a self-weight load are transmittable as
28 tension forces away from said one of the joints (109) of

29 the third joint set to the joints (114, 115, 113, 121) of
30 at least one of the first and second joint sets via the
31 tension-only connecting element (39, 41, 43, 45) that is
32 adapted and able to transmit only tension forces, wherein
33 each said tension-only connecting element comprises at
34 least one wire or cable that is adapted and able to
35 transmit only tension forces.

1 42. (currently amended) A deployable structure having a modular
2 configuration including at least one collapsible module,
3 wherein each said module comprises:

4 first joints located at first corners of said module
5 and lying in a first surface;

6 second joints located at second corners of said module
7 and lying in a second surface;

8 a third joint that is distinct from said first and
9 second joints and is not located at a corner of said
10 module, and that is displaced from said first surface on a
11 side of said first surface facing toward said second
12 surface;

13 a guide mechanism comprising scissors arrangements
14 connected to at least some joints of said first and second
15 joints so as to selectively constrain and fix a position of
16 said some joints relative to one another; and

17 at least two tension-only connecting elements that are
18 each adapted and able to transmit only tension forces, and
19 that connect said third joint respectively with at least
20 two selected joints including at least one of said first

21 joints and at least one further joint among said first and
22 second joints;

23 wherein said at least two tension-only connecting
24 elements are arranged and adapted so that load forces
25 acting on said structure are transmitted as purely tension
26 forces from said third joint to said at least two selected
27 joints via said at least two tension-only connecting
28 ~~elements.~~ elements, and

29 wherein each said tension-only connecting element
30 respectively comprises at least one wire or cable that is
31 adapted and able to transmit only tension forces.

1 43. (previously presented) The deployable structure according
2 to claim 42, wherein said at least two selected joints
3 include at least one of said first joints and at least one
4 of said second joints.

1 44. (previously presented) The deployable structure according
2 to claim 42, wherein said at least two selected joints
3 include three of said first joints and one of said second
4 joints, and wherein said at least two tension-only
5 connecting elements include four said tension-only
6 connecting elements respectively connecting said third
7 joint with said three first joints and said one second
8 joint.

Claim 45 (canceled)

1 46. (previously presented) The deployable structure according
2 to claim 42, wherein each said tension-only connecting
3 element respectively comprises two wires or cables that are
4 arranged and extend parallel to one another, and that are
5 adapted and able to transmit only tension forces.

1 47. (previously presented) The deployable structure according
2 to claim 42, further comprising:

3 a fourth joint that is distinct from said first,
4 second and third joints and that is displaced from said
5 second surface on a side of said second surface facing
6 toward said first surface;

7 and

8 at least one connecting rod that is adapted and able
9 to transmit both tension forces and compression forces, and
10 that connects said fourth joint respectively with at least
11 one of said second joints.

1 48. (previously presented) The deployable structure according
2 to claim 47, wherein each said tension-only connecting
3 element respectively comprises two wires or cables that are
4 arranged and extend parallel to one another, and that are
5 adapted and able to transmit only tension forces, and
6 wherein said connecting rod respectively crosses and
7 extends between said two wires or cables of a respective
8 one said tension-only connecting element.